

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Currently amended) A method for adapting to changes affecting a wireless signal, comprising:

calculating a metric of a modulated signal, the metric indicative of a change in the signaling path as a function of a change in at least one modulation attribute of the modulated signal, the modulation attribute being at least one of amplitude, frequency, or phase; and

adjusting at least one signaling parameter based on the metric to compensate for the changes affecting the signaling path, the adjusting including at least one of:
minimizing a data transfer rate while maintaining the signal path,
minimizing a power level while maintaining the signal path,
adjusting a forward error correction (FEC) coding rate,
adjusting a modulation attribute, or
adjusting a mobile station receiving antenna characteristic.

2. (Previously presented) The method as in Claim 1, wherein the metric is calculated by a mobile station.

3.-4. (Canceled)

5. (Previously presented) The method as in Claim 1, wherein the metric is calculated from a signal in an automatic gain control (AGC) loop.

6. (Previously presented) The method as in Claim 5, wherein the metric is a function of a statistic of the signal in the AGC loop.

7. (Previously presented) The method as in Claim 6, wherein the statistic is variance.

8. (Previously presented) The method as in Claim 1, wherein the metric is calculated from a phase error signal produced by at least one of a delay lock loop, matched filter, or correlator.

9. (Previously presented) The method as in Claim 8, wherein the metric is a function of a statistic of the phase error signal.

10. (Previously presented) The method as in Claim 9, wherein the statistic is variance.

11. (Previously presented) The method as in Claim 1, wherein the metric is calculated from a frequency error signal in a frequency control loop.

12. (Previously presented) The method as in Claim 11, wherein the metric is a function of a statistic of the frequency error signal.

13. (Previously presented) The method as in Claim 12, wherein the statistic is variance.

14. (Previously presented) The method as in Claim 1, further comprising:

comparing the metric to a threshold level.

15. (Previously presented) The method as in Claim 1, wherein the adjusting comprises changing an antenna mode.

16. (Previously presented) The method as in Claim 15, wherein changing an antenna mode comprises changing from directive to omni-directional.

17. (Previously presented) The method as in Claim 15, wherein changing an antenna mode comprises changing from omni-directional to directive.

18. (Canceled)

19. (Currently amended) The method as in Claim [[18]] 1, wherein the adjusting includes reducing at least one of ~~the data transfer rate~~, the FEC coding rate, or the modulation attribute, to a minimum level while maintaining the signal path.

20. (Canceled)

21. (Currently amended) An apparatus for adapting to changes affecting a wireless signal, comprising:

a processing unit configured to calculate a metric of a modulated signal, the metric indicative of a change in the signaling path as a function of a change in at least one modulation attribute of the modulated signal, the modulation attribute being at least one of amplitude, frequency, or phase; and

a compensator configured to adjust at least one signaling parameter based on the metric to compensate for the changes affecting the signaling path, the adjusting including at least one of:

minimizing a data transfer rate while maintaining the signal path,
minimizing a power level while maintaining the signal path,
adjusting a forward error correction (FEC) coding rate,
adjusting a modulation attribute, or
adjusting a mobile station receiving antenna characteristic.

22. (Previously presented) The apparatus as in Claim 21, wherein the processing unit is located in a mobile station.

23.-24. (Canceled)

25. (Previously presented) The apparatus as in Claim 21, wherein the processing unit is configured to calculate the metric from a signal in an automatic gain control (AGC) loop.

26. (Previously presented) The apparatus as in Claim 25, wherein the metric is a function of a statistic of the signal in the AGC loop.

27. (Previously presented) The apparatus as in Claim 26, wherein the statistic is variance.

28. (Previously presented) The apparatus as in Claim 21, wherein the processing unit is configured to calculate the metric from a phase error signal produced by at least one of a delay lock loop, a matched filter, or a correlator.

29. (Previously presented) The apparatus as in Claim 28, wherein the metric is a function of a statistic of the phase error signal.

30. (Previously presented) The apparatus as in Claim 29, wherein the statistic is variance.

31. (Previously presented) The apparatus as in Claim 21, wherein the processing unit is configured to calculate the metric from a frequency error signal in a frequency control loop.

32. (Previously presented) The apparatus as in Claim 31, wherein the metric is a function of a statistic of the frequency error signal.

33. (Previously presented) The apparatus as in Claim 32, wherein the statistic is variance.

34. (Previously presented) The apparatus as in Claim 21, wherein the processing unit is configured to compare the metric to a threshold level.

35. (Previously presented) The apparatus as in Claim 21, further comprising:

an antenna having a changeable antenna mode, wherein the compensator is configured to change the antenna mode.

36. (Previously presented) The apparatus as in Claim 35, wherein the compensator is configured to change the mode from directive to omni-directional.

37. (Previously presented) The apparatus as in Claim 35, wherein the compensator is configured to change the mode from omni-directional to directive.

38. (Canceled)

39. (Currently amended) The apparatus as in Claim [[38]] 21, wherein the compensator is configured to reduce at least one of ~~the data transfer rate~~, the FEC coding rate, or the modulation attribute, to a minimum level while maintaining the signal path.

40.-41. (Canceled)

42. (Currently amended) A computer-readable storage medium containing a set of instructions for a general purpose computer, the set of instructions comprising:

a signal adaptation code segment configured to cause a processor to control a signaling path to adapt to changes affecting the signaling path,

a calculating code segment configured to calculate a metric of a modulated signal indicative of a change in the signaling path as a function of a change in at least one modulation attribute of the modulated signal, the modulation attribute being at least one of amplitude, frequency, or phase; and

an adjusting code segment configured to adjust at least one signaling parameter based on the metric to compensate for the changes affecting the signaling path, the adjusting including at least one of:

minimizing a data transfer rate while maintaining the signal path,

minimizing a power level while maintaining the signal path,

adjusting a forward error correction coding rate,

adjusting a modulation attribute, or

adjusting a mobile station receiving antenna characteristic.